



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-9191; Directorate Identifier 2016-NM-106-AD]

RIN 2120-AA64

Airworthiness Directives; Gulfstream Aerospace Corporation Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Gulfstream Aerospace Corporation Model GVI airplanes. This proposed AD was prompted by a report indicating that there are design deficiencies in the software used for monitoring the disconnect for the flight control computer (FCC)-hosted flight controls actuation main ram linear variable differential transducer (LVDT). This proposed AD would require an update of the FCC software. We are proposing this AD to prevent the unsafe condition on these products.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, GA 31402-2206; telephone: 800-810-4853; fax: 912-965-3520; email: pubs@gulfstream.com; Internet: http://www.gulfstream.com/product_support/technical_pubs/pubs/index.htm. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9191; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Myles Jalalian, Aerospace Engineer, Systems and Equipment Branch, ACE-119A, FAA, Atlanta Aircraft Certification Office (ACO), 1701 Columbia Avenue, College Park, GA 30337; phone: 404-474-5572; fax: 404-474-5606; email: Myles.Jalalian@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2016-9191; Directorate Identifier 2016-NM-106-AD” at the

beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We have received a report indicating that there are design deficiencies in the FCC software used for monitoring the disconnect for the FCC-hosted flight controls actuation main ram LVDT. When a failure occurs, if the actuator LVDT mechanical disconnect monitor and oscillatory monitor are not reliably triggered, there could be an undetected actuation of the main ram LVDT. This condition, if not corrected, could result in undetected actuation of the main ram LVDT. Undetected actuation of the main ram LVDT, if not corrected, could result in mechanical failure of the flight control surface actuator mechanism under force fight (the actuator is working against the intended load forces), causing primary surface hardover, spoiler hardover, and loss of control of the airplane.

Related Service Information under 1 CFR part 51

We reviewed Gulfstream G650 Aircraft Service Change Number 037, Revision A, dated June 28, 2016; and Gulfstream G650ER Aircraft Service Change Number 037, Revision A, dated June 28, 2016. The service information describes procedures for doing an update of the FCC software. These documents are distinct since they apply to different airplane models. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously.

Interim Action

We consider this proposed AD interim action. The manufacturer is currently developing an additional software update that will complete the actions necessary to address the unsafe condition identified in this proposed AD. Once this additional software update is developed, approved, and available, we might consider additional rulemaking.

Costs of Compliance

We estimate that this proposed AD affects 90 airplanes of U.S. registry. We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Software update	57 work-hours X \$85 per hour = \$4,845	\$9,126	\$13,971	\$1,257,390

According to the manufacturer, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States,

or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Gulfstream Aerospace Corporation: Docket No. FAA-2016-9191; Directorate Identifier 2016-NM-106-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Gulfstream Aerospace Corporation Model GVI airplanes, certificated in any category, serial numbers 6001 through 6164 inclusive.

Note 1 to paragraph (c) of this AD: Model GVI airplanes are also referred to by marketing designations G650 and G650ER.

(d) Subject

Air Transport Association (ATA) of America Code 27; Flight controls.

(e) Unsafe Condition

This AD was prompted by a report indicating that there are design deficiencies in the software used for monitoring the disconnect for the flight control computer (FCC)-hosted flight controls actuation main ram linear variable differential transducer (LVDT). We are issuing this AD to prevent undetected actuation of the main ram LVDT. Undetected actuation of the main ram LVDT, if not corrected, could result in mechanical failure of the flight control surface actuator mechanism under force fight (the actuator is working against the intended load forces), causing primary surface hardover, spoiler hardover, and loss of control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Software Update for FCC

Within 24 months after the effective date of this AD, do an FCC software update, in accordance with the Modification Instructions of Gulfstream G650 Aircraft Service Change Number 037, Revision A, dated June 28, 2016; or Gulfstream G650ER Aircraft Service Change Number 037, Revision A, dated June 28, 2016; as applicable.

(h) Reporting not Required

Although Gulfstream G650 Aircraft Service Change Number 037, Revision A, dated June 28, 2016; and Gulfstream G650ER Aircraft Service Change Number 037, Revision A, dated June 28, 2016; specify to submit certain information to the manufacturer, this AD does not require that action.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Atlanta Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (j)(1) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Myles Jalalian, Aerospace Engineer, Systems and Equipment Branch, ACE-119A, FAA, Atlanta ACO, 1701 Columbia Avenue, College Park, GA 30337; phone: 404-474-5572; fax: 404-474-5606; email: Myles.Jalalian@faa.gov.

(2) For service information identified in this AD, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, GA 31402-2206; telephone: 800-810-4853; fax: 912-965-3520; email: pubs@gulfstream.com; Internet: http://www.gulfstream.com/product_support/technical_pubs/pubs/index.htm. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on October 12, 2016.

Michael Kaszycki,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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